Introduction

Past traffic studies in the vicinity of the Capitol have identified the impacts of anticipated growth on the surrounding street network. Mitigation measures have been recommended to account for these impacts. The results of these studies indicate that the addition of background traffic volume growth to the existing traffic volumes has a significant effect on intersections at the south and west sides of the Capitol grounds. The analysis performed indicates that before the year 2020, with or without changes to the Capitol grounds, improvements must be made within the study area to accommodate background, or existing, traffic growth. Analysis of existing conditions indicates that the intersections on Columbus Street and the intersection at State Street and 300 North do not operate well in the evening peak hour.

This traffic study builds upon the results of previous studies to determine the cumulative impacts of the background growth and to determine additional improvements, that may be needed to mitigate the effects of the potential changes to the Capitol.

Parking studies were not as readily available as previous traffic studies. However, this study evaluates the existing utilization of each lot, the exiting and entering rates, and location of access points. In addition, this study recommends where new parking lots should be located and how they should be accessed.

Purpose

The purpose of this section is to evaluate the existing transportation system and parking facilities on and around the Utah State Capitol campus. In addition, the section makes recommendations to improve the current Capitol grounds and to accommodate potential changes to the Capitol.

The effects of potential changes to the Capitol on the existing roadway system were determined by:

- Collecting existing traffic data from the study area;
- Measuring the performance of the existing street network;
- Projecting the existing data to the horizon year 2020; and
- Measuring the performance of the street network with future traffic volumes in place.

This analysis includes the traffic growth anticipated throughout the Salt Lake Valley as existing or background traffic, combined with the anticipated traffic produced by the potential changes to the Capitol.

The following standards were developed to address the goals of the project: life safety, function, and historical preservation, in context with the standard traffic and parking study elements.

1. Life Safety

a. Standard: Provide safe vehicle and pedestrian access to the Capitol

1) Objective: Reduce the existing number of access points.

2) Objective: Better define access points.

3) Objective: Locate major access points where they will minimize the impact on the majority of traffic.

4) Objective: Use features such as anticipated traffic signals, bulb-outs and medians to improve pedestrian access to the site.

5) Objective: Develop an internal circulation system, pedestrian and vehicle, that is in harmony with the access points.

a. Standard: Create streets that meet the traffic demands and context of the adjacent neighborhoods.

1) Objective: Reduce the street width and number of lanes where travel demands allow (balancing capacity and demand) with the intent to reduce speeds.

2) Objective: Provide streets that are pedestrian friendly.

2. Function

a. Standard: Use the Highway Capacity Manual level of service criteria as a means of evaluating the existing and future conditions

1) Objective: Provide a transportation network that maintains an acceptable level of service.

2) Objective: Develop intersection treatments that consider future travel patterns.

b. Standard: Include the area-wide transportation network when evaluating the transportation component of the Capitol .

1) Objective: Evaluate the impacts of the I-15 reconstruction on the existing and future transportation patterns.

2) Objective: Develop intersection treatments that consider future travel patterns.

3. Historical Preservation

a. Standard: Restore the layout of the original Capitol Master Plan with predominant landscape areas.

1) Objective: Reduce the number of surface stalls

2) Objective: Increase the number of underground parking.

3) Objective: Breakup large pavement areas with landscaping.

Site Location: ***The Capitol is located in the northern part of Salt Lake City with limited access to the north and west and essentially no vehicle access to the east.*** The Capitol is bound by East Capitol Boulevard on the east, Columbus on the West and 300 and 500 North on the south and north respectively. There are sixteen unsignalized intersections in the study area that include eight parking lot accesses.

The unsignalized intersections are:

- Main Street and 300 North
- Columbus Street and 400 North
- Columbus Street and 500 North
- 300 North and State Street
- 500 North and East Capitol Boulevard
- 300 North and East Capitol Boulevard
- 500 North and Northwest Driveway
- 500 North and Desoto
- 500 North and Northeast Driveway
- 500 North and Cortez
- Upper Driveway and East Capitol Boulevard
- Middle Driveway and East Capitol Boulevard
- Lower Driveway and East Capitol Boulevard
- 300 North and Church Lot
- 300 North and Wall Street
- Apricot St. and Columbus St.

1) Study Area

The study area for the transportation component of the Capitol Campus Master Plan is generally described as the roadway network that borders the campus as shown in Figure 1. The site access and existing land uses were considered for determining the study area boundaries. The main streets that provide access to the Capitol area are: State Street, Main Street, and Victory Road.

State Street is a two-lane road south of the Capitol at the intersection with 300 North. Further to the south, State Street is a four-lane road with center left turn lanes and left turn bays provided at major intersections. State Street is an arterial that provides access between Salt Lake City's Central Business District and the area to the north. The majority of traffic on State Street is commuter traffic from areas outside of Salt Lake City boundaries. State Street and 300 North is a T-type intersection with no north leg. The west leg is stop controlled and the east leg is yield controlled to allow free flow northbound traffic. The speed limit is not posted, however, this section of State Street passes through a residential area, and thus the default speed limit is 25 m.p.h. and is under the jurisdiction of the Utah Department of Transportation.

Main Street, which turns into Columbus Street along the Capitol and then into Victory Road north of the Capitol, is also classified as an arterial. Main Street begins approximately two blocks south of the Capitol at the intersection with North Temple as a four-lane road, then narrows to two lanes just south of the intersection of 300 North. Steep grades on Main Street just south of the intersection with 300 North have been the blame for a history of accidents at this intersection. Main Street is under the jurisdiction of Salt Lake City and has a posted speed limit of 30 m.p.h..

Columbus street is a two-lane road on the west side of the Capitol. The intersection with 500 North recently met traffic signal warrants, but the installation of a traffic signal was strongly opposed by the residents. Columbus Street has no posted speed limit and is under the jurisdiction of UDOT.

Victory Road is a two-lane roadway that connects Columbus Street to Beck Street further north. Victory Road has few access points, it is under the jurisdiction of UDOT and has posted speed of 50 m.p.h..

300 North is an east/west road that connects State Street and Columbus Street. 300 North is a two-lane road with no posted speed limit. 300 North is under the jurisdiction of UDOT between Columbus and State Street. Salt Lake City has jurisdiction between State Street and East Capitol Boulevard.

500 North is a two-lane road north of the Capitol that begins at East Capitol Boulevard and connects to Columbus Street. It then proceeds to a residential area to the west. 500 North is under the jurisdiction of Salt Lake City and has no posted speed limit.

East Capitol Boulevard is a four-lane road with a two way left turn and adequate width for parking on both sides. East Capitol Boulevard begins at the intersection with 300 North and then proceeds north along the Capitol and then into a residential area. East Capitol Boulevard has no posted speed and is under the jurisdiction of Salt Lake City.

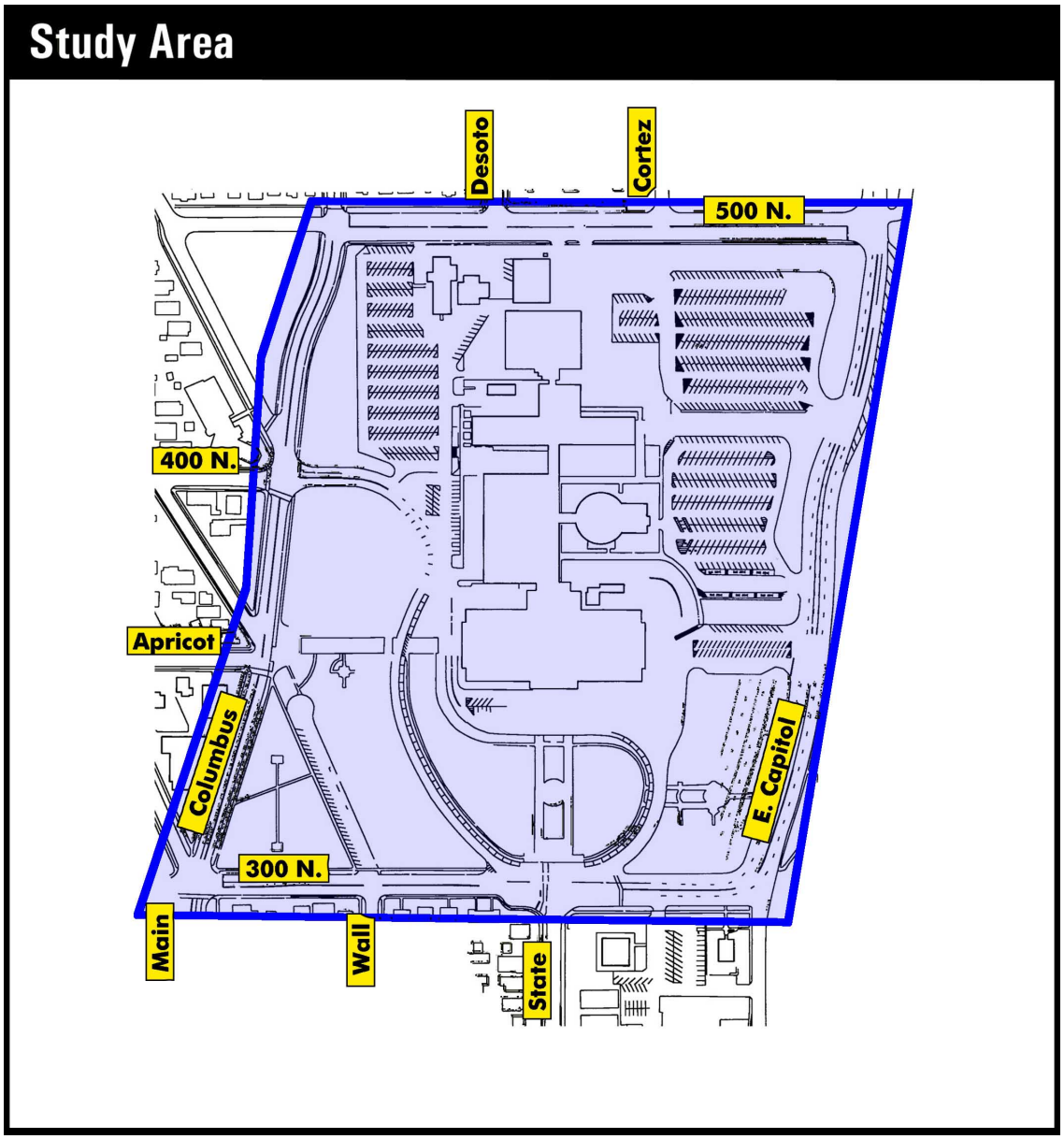


FIGURE1

Roadway segment information for the main roads in the study area is contained in Table 1. Future year volumes listed in this Table are shown as 2020, Wasatch Front Regional Council projections and previous studies in the area.

Table 1
Roadway Segment Information

Roadway	*Speed Limit (MPH)*	*Average Daily Traffic (ADT) Two-way Volume*	*1999 Existing AM Peak Hour*	*1999 Existing PM Peak Hour*
300 North	25	1998 – 15,930 2020 – 22,650	881	703
500 North	25	1998 – 4,200 2020 – 5,970	418	370
Columbus Street	30	1998 – 23,415 2020 – 33,295	1,500	1,803
East Capitol Blvd.	25	1998 – 9800* 2020 – 13,935	688	451

*This is an estimate based on traffic patterns of other streets in the vicinity

The existing AM and PM peak hour turning movement volumes with and without the legislature in session are shown in Figures 2 and 3 respectively. AM and PM peak hour data is from 8:00 to 9:00 for the AM peak and 4:30 to 5:30 for the PM peak.

2) Analysis of Existing Conditions

The analysis of existing conditions provides insight into how the existing street network is configured and how well it performs. This information is useful in establishing baseline conditions and for projecting future conditions. Elements of the existing conditions include:

- Physical Characteristics,
- Traffic Volumes,
- Level of Service,
- Parking,
- Accident History, and
- Pedestrian Circulation.

3) Physical Characteristics

The primary streets providing access to the Capitol are Main Street/Columbus Street/Victory Road, State Street, East Capitol Boulevard, 300 North and 500 North. State Street and Main Street provide connections to the Central Business District as well as regional access to the south, east and west. Victory Road provides access to and from the north. Columbus Street, East Capitol Boulevard, 300 North and 500 North provide direct access to the Capitol.

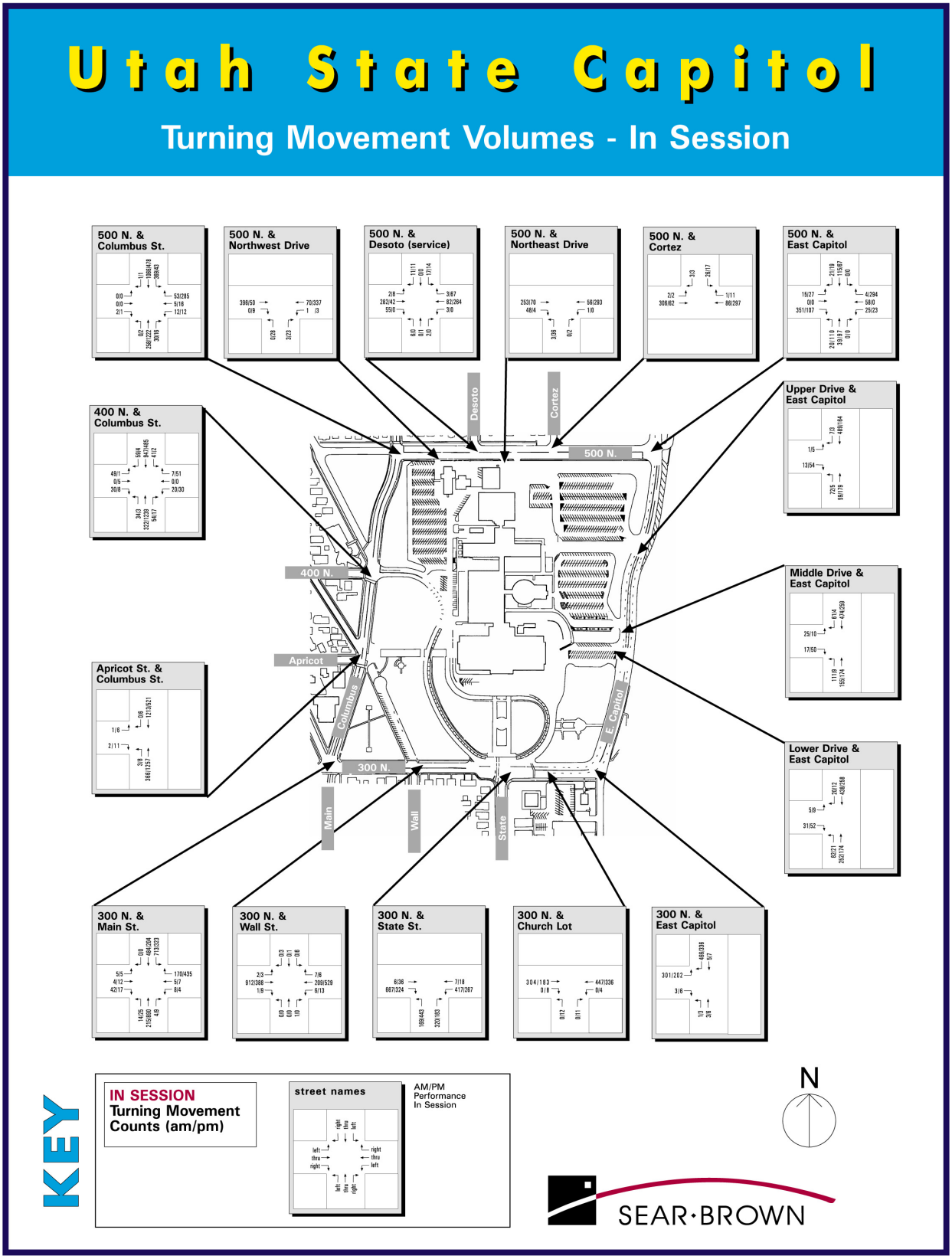
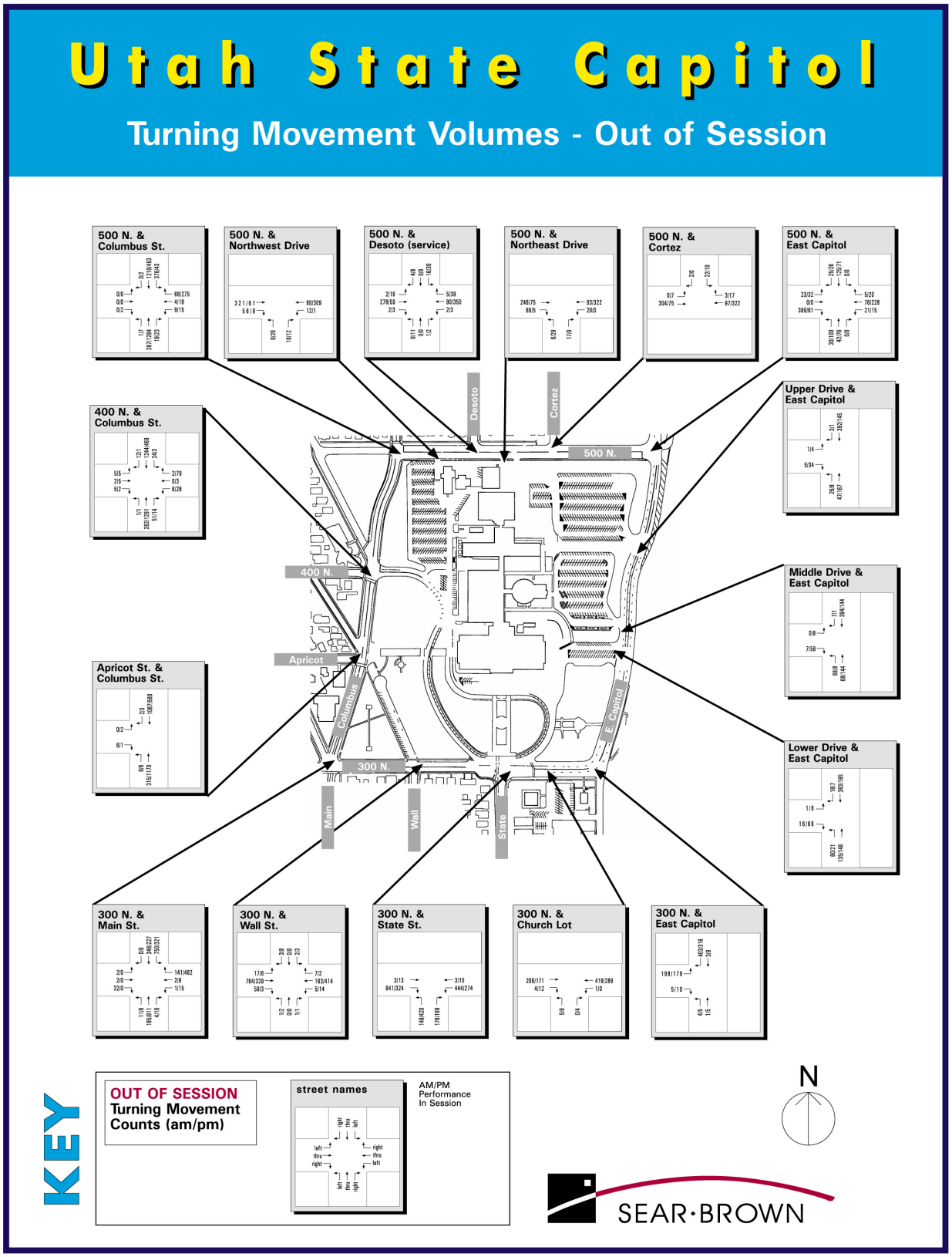

Utah State Capitol
Turning Movement Volumes - In Session
500 N. & Columbus St.
500 N. & Northwest Drive
500 N. & Desoto (service)
500 N. & Northeast Drive
500 N. & Cortez
500 N. & East Capitol
400 N. & Columbus St.
Upper Drive & East Capitol
Middle Drive & East Capitol
Lower Drive & East Capitol
Apricot St. & Columbus St.
300 N. & Main St.
300 N. & Wall St.
300 N. & State St.
300 N. & Church Lot
300 N. & East Capitol
Desoto
Cortez
500 N.
400 N.
Apricot
Columbus
E. Capitol
300 N.
Main
Wall
State
KEY
IN SESSION
Turning Movement Counts (am/pm)
street names
AM/PM Performance In Session
N
SEAR·BROWN

FIGURE 2


Utah State Capitol
Turning Movement Volumes - Out of Session
500 N. & Columbus St.
500 N. & Northwest Drive
500 N. & Desoto (service)
500 N. & Northeast Drive
500 N. & Cortez
500 N. & East Capitol
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Upper Drive & East Capitol
Middle Drive & East Capitol
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Main
Wall
State
KEY
OUT OF SESSION
Turning Movement
Counts (am/pm)
street names
AM/PM
Performance
In Session
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SEAR·BROWN

FIGURE 3

Overall, the streets in the study area seem to be in relatively good condition with no areas in need of immediate repair. The intersections in the study area are all stop controlled.

4) Traffic Volumes

The existing AM and PM peak hour turning movement volumes with and without the legislature in session are shown in Figures 2 and 3 respectively. AM and PM peak hour data is from 8:00 to 9:00 for the AM peak and 4:30 to 5:30 for the PM peak.

5) Level of Service

In order to determine the effects of potential changes to the Capitol would have on the adjacent street network, a level of service analysis was conducted at each of the existing intersections in the study area. The analysis was based on procedures outlined in the Highway Capacity Manual (HCM) published by the Transportation Research Board (TRB). This type of analysis assigns a letter value based on average delay experienced by vehicles to indicate the level of service (LOS) of the intersection. The letter values range from A to F with A being the best. A summary and definition of the different levels of service are given in Table 2 for signalized and unsignalized intersections.

Table 2
Level of Service Definition – Intersections

Signalized Intersection		**Unsignalized Intersection**		**Definition**
LOS	**Delay (sec/veh)**	**LOS**	**Delay (sec/veh)**	
A	+10.0	a	+10.0	favorable progression
B	>10.0 and +20.0	b	>10.0 and +15.0	good progression
C	>20.0 and +35.0	c	>15.0 and +25.0	fair progression
D	>35.0 and +55.0	d	>25.0 and +35.0	noticeable congestion
E	>55.0 and +80.0	e	>35.0 and +50.0	limit of acceptable delay
F	>80	f	>50	approaching unacceptable delay

Source: ***Highway Capacity Manual*****, Transportation Research Board, 1998**

The intersection analysis of the existing conditions indicate four locations of concern: State Street and 300 North; 300 North and Main Street; 400 North and Columbus Street; and 500 North and Columbus Street. These findings are consistent with other studies conducted within the area. Alternative mitigation measures are discussed later in the report.

To simplify the results, a classification of Acceptable or Unacceptable was used to describe each intersection. For an intersection to be classified as Acceptable, a motorist would experience a delay of 35 seconds or less. On the other hand, if a motorist is delayed more than 35 seconds the intersection is considered Unacceptable. Figure 4 illustrates the level of service for each intersection during the AM and PM peak travel periods both with and without the legislature in session. The reports produced from these calculations are provided in the Appendix.

The poor level of service at the intersections along Columbus and at State Street and 300 North are directly related to the high volume of commuter traffic between Davis County and Downtown Salt Lake City. In order to alleviate the problems along Columbus the N/S through traffic would need to decrease by approximately 40%, during the PM peak travel period. The Capitol only makes up approximately 10% of the total traffic on Columbus.

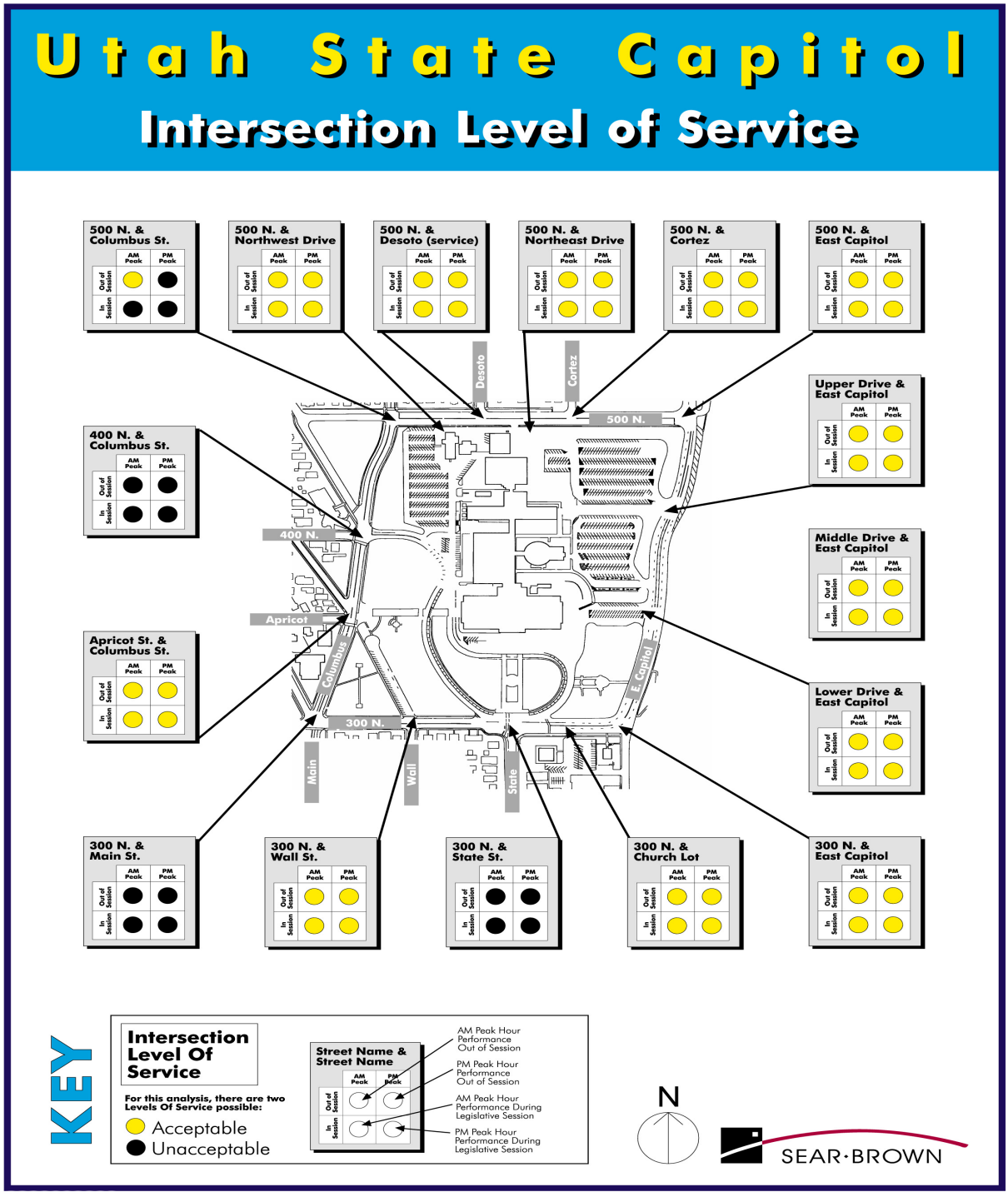

FIGURE 4

6) Parking

In addition to collecting traffic volume data, 20 parking areas were inventoried with and without the legislature in session to evaluate the existing parking capacity and effectiveness of each parking lot. The parking inventories were performed during the afternoon between 2:00 and 3:00 PM. Figure 5 illustrates the capacity of each parking area, the number of stalls occupied during the inventory, the percent stalls occupied and whether or not the legislature was in session.

Typical parking rates for government facilities vary depending upon where the facility is located and the type of departments or services housed in those facilities. To compare the current demand to National and local

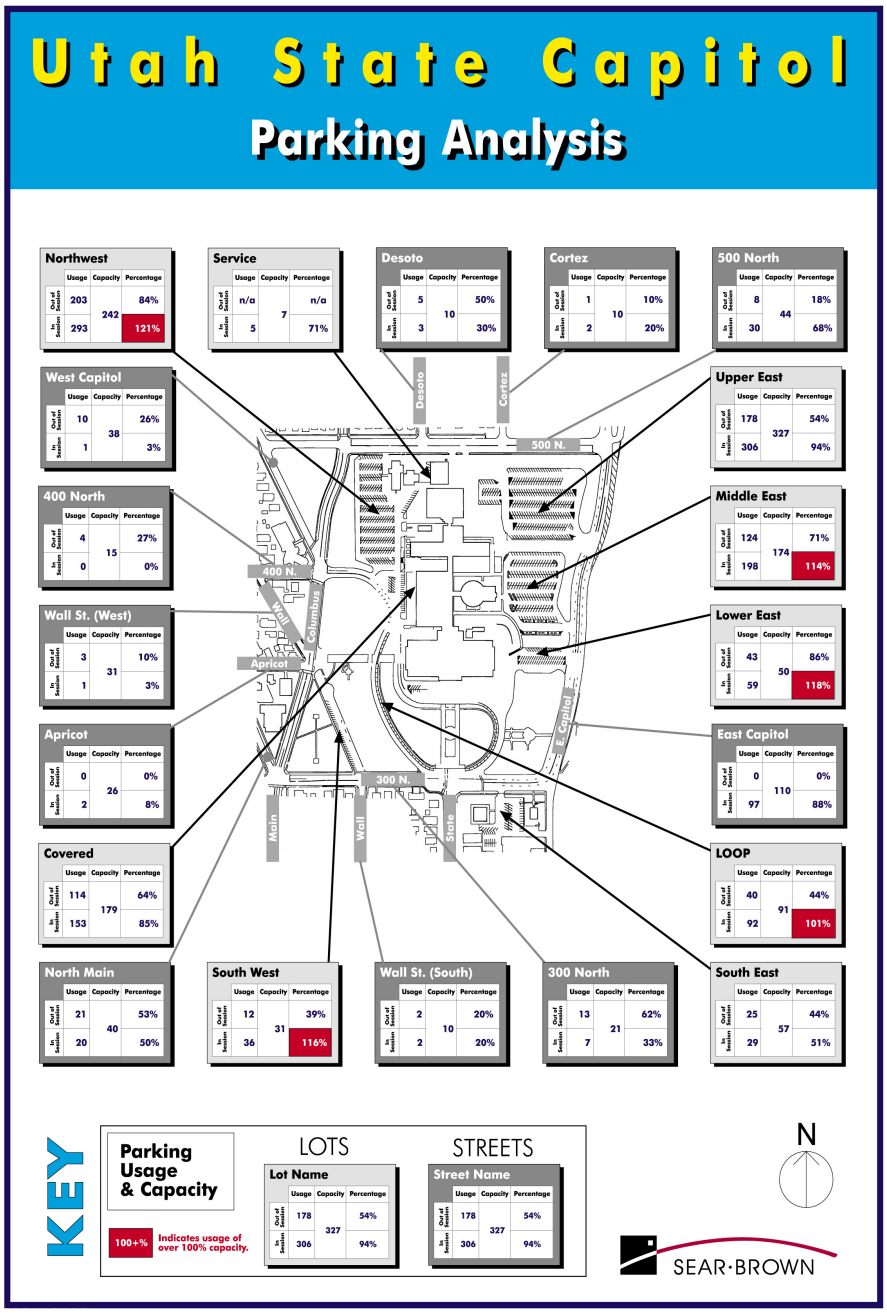

FIGURE 5

Average parking requirements for government office buildings as reported by the Institute of Transportation Engineers (ITE) is 3.84 spaces per 1000 square feet gross floor area. In addition to office space, the Capitol grounds includes the Daughters of Utah Pioneers. Museum (2 spaces per 1,000 square feet) and the White Chapel (.43 spaces per seat). With all of these land uses together, this would equate to 1992 parking stalls compared to the 1513 existing available spaces. It is important to note that ITE parking rates are typically higher than most municipalities' rates, including Salt Lake City's.

Salt Lake City Parking Requirements:

From Table 21A.44.060 Salt Lake City Parking Standards (8-99). General office minimum off-street parking requirements states: 3 spaces per 1,000 square feet gross floor area for the main floor plus 1¼ spaces per 1,000 square feet gross floor area for each additional level, including the basement. Museums require 1 space per 1,000 gross square feet and churches require .20 spaces per seat. These requirements would equate to 925 stalls needed compared to the 1513 existing stalls available.

When the legislature is not in session the existing parking facilities were well below capacity, approximately 53 percent of the stalls were occupied. The preferred parking, located closer to the buildings had occupancy rates as high as 86 percent. While the legislature was in session, five of the parking areas exceeded capacity and the overall occupancy was approximately 88 percent.

Therefore, comparisons between the ITE and Salt Lake City rates and the Capitol's current parking demand show that the Capitol has adequate parking. It is assumed with this comparison that the amount of land use will not change over time.

After reviewing the parking layout, the following issues have been identified:

- Lack of a monumental, identifiable major entrance(s)
- Lack of easily identified parking areas for user groups
- Parking located in front of the Capitol building in sensitive view area
- Large surface parking areas
- Road and parking layout diminishes formal layout
- Lack of proper parking location for the Daughters of Utah Pioneers Museum
- Visible service areas
- Parking areas not linked

Lack of monumental, identifiable major entrance(s)

The Capitol grounds contain ten access locations, eight are direct entrances into parking areas. None of the access points identifies itself or serves as a main entry to the Capitol. The Capitol does not contain monumental entrances as illustrated in the original master plans. The Capitol campus does not contain a 'front door' for the visitor to enter through. The proliferation of entries creates confusion because visitors are not sure which entry is the appropriate entry. With most visitors accessing the grounds from the south, it is not clear whether to proceed to the west or east sides of the building.

Lack of easily identified parking areas for user groups

Confusion regarding where Capitol patrons and visitors should enter from comes from the lack of signs. The lack of signs causes motorists to make parking decisions prior to turning off the street, potentially in heavy

traffic. If the parking decision is incorrect, they have to either exit the Capitol grounds back onto adjacent streets and search for a new entrance or drive on the interior roads, which may not lead to the correct area.

Parking located in front of Capitol in sensitive view area

The primary view area of the Capitol building is from the south where the large ceremonial lawn area is located. Three parking areas are located in this area which provides minimal additional parking for the Capitol grounds and does not efficiently access the Capitol or other on-site buildings. The original master plans used the rear of the building to locate parking. This allowed the front lawn to act as a large monumental extension of the Capitol.

Large surface parking areas

Most of the Capitol parking is provided in large surface lots. The large lots do not segregate the different user groups from each other. For example, there are not any clearly designated visitor or employee parking areas. In addition, large parking areas require large areas for snow storage which usually takes up valuable parking spaces and the large lots also become a heat sink during the summer.

Road and parking layout diminishes formal layout

The large parking areas and interior roadways reduce the formal layout of the grounds as originally envisioned. This is most apparent north of the Capitol where much of the grounds are used for surface parking. Important formal areas along the building axes are also used for parking.

Lack of proper parking location for Daughters of Utah Pioneers. Museum

The Daughters of Utah Pioneers. Museum parking area is not ideally located for visitors. The parking lot is set back considerably from Columbus Street. The lack of visibility prevents the lot from being identified as parking for the museum and serving visitors with mobility concerns.

Visible service areas

The Capitol contains five service areas that are located in highly visible areas. This is especially true with the Capitol Building, which contains two service areas.

Parking areas not linked

The multiple entrances to the Capitol accessing individual parking areas are not connected to each other, or the connection between parking areas is not well defined. Poor interconnectivity forces the motorist to enter back onto the roadway and into another entrance. This creates the increased potential for vehicular conflicts that otherwise could be minimized.

7) Accident History

An accident or crash history was requested from the Utah Department of Transportation (UDOT) for the study area. The history documents all vehicular crashes over the past three years (1997-1999) and compares the crash rate to an expected crash rate. Table 3 below summarizes the crash history.

Crash Summary (1997 –1999)

Location	Number of Accidents	Average Severity	Expected Severity	Average Accident Rate	Expected Accident Rate
500 North/Columbus Street	4	1.22	1.29	0.18	.22
300 North/Columbus Street	11	2.63	1.29	0.49	.19
300 North/SR-89 (State Street)	13	1.95	1.29	0.50	1.19
300 North/East Capitol Boulevard	2	0.83	1.27	0.49	3.25

Source: Utah Department of Transportation, Division of Traffic and Safety.

As shown, the accident rate is well below the expected rate at these locations. The only factor that is above what is expected is the severity at the intersection of 300 North and Columbus Street where the average severity is 2.63 and the expected severity is 1.29. This should go down when UDOT installs the traffic signal that has been warranted.

8) Pedestrian Circulation

Much of the pedestrian circulation is accommodated by interior roads and parking lots. The Capitol grounds do not have a connected or continuous pedestrian walking system that provides adequate access to the Capitol grounds or to adjacent facilities.

Major issues with existing pedestrian facilities are:

- Lack of perimeter sidewalks
- Lack of pedestrian separation from vehicles in parking areas
- Lack of pedestrian connections off-site
- Lack of pedestrian connections on the Capitol grounds
- Lack of pedestrian gathering areas and plazas
- Lack of visitor walkways
- Lack of pedestrian rest areas or seating areas

Lack of perimeter sidewalks

The State Capitol is a facility that is surrounded by residential uses on three sides and by park usage on the east boundary. Tying into the adjacent areas in character and need is partially accommodated by a perimeter sidewalk system. On-site users such as employees and tourists also benefit from such a system for exercise and

accessing the Capitol grounds from any number of locations. It also provides a safety element to provide a location for pedestrians adjacent to a street as opposed to in it.

Lack of pedestrian separation from vehicles in parking areas

The large parking lots at the Capitol do not provide safe access for pedestrians from their vehicles to the Capitol buildings or grounds. Users have no choice but to walk down or through aisles. In winter weather with snow, this also means they will have to walk through snowy or slushy parking lots.

Lack of pedestrian connections off-site

The Capitol grounds extend beyond the block in which the State Capitol and State Office building are located. Facilities such as the Daughters of Utah Pioneers Museum located southwest of the Capitol block are greatly under utilized. Other adjacent areas not part of the Capitol grounds include, Memory Grove Park and City Creek Canyon. The Capitol grounds and these adjacent facilities would greatly benefit by pedestrian interconnection.

Lack of pedestrian connections within the Capitol grounds

Accessing facilities or elements within the Capitol grounds as a visitor or employee is difficult. Many pedestrians have to walk across long stretches of lawn, through parking lots, and in the roadway to get from one point to another. Most walkways on grounds do not interconnect to each other, but to streets or parking lots. This scenario is difficult for visitors, where a cohesive walkway could lead them to additional areas of the Capitol grounds. Other areas lacking walkways are the East Capitol Boulevard area and the west and east parking areas where pedestrians walk along the street or through parking lots to get to their destinations.

Lack of pedestrian gathering areas and plazas

Major gathering areas for pedestrians occur in parking lots and drop-off areas, especially at the bottom of the front Capitol steps. The second potential gathering area – the Utah Garden plaza - does not allow for public gathering or usage.

Lack of visitor walkway system

Most of the current walkways are situated along interior roadways and do not access visitor features such as monuments or adjacent buildings such as the Daughters of Utah Pioneers. Museum, Council Hall and Memory Grove. Interior features such as the Utah Garden is not accessed from the front of the Capitol.

Lack of pedestrian rest areas or seating areas

Seating areas on the Capitol grounds are minimal. Existing seating areas are located in low use areas and used mainly as decorative elements. For example, in the front part of the Capitol grounds where most visitors spend time on-site. Two areas that provide seating are the Mormon Battalion Monument and at the Chief Massasoit Memorial. Considering the size of this area, this seating is inadequate and does not take user comfort in account, such as shade. Most visitors are relegated to sitting on steps or on lawn areas.

In reviewing possible traffic and transportation alternatives for the State Capitol, the first alternative to consider is the no-build alternative. In other words, leave the Capitol as it is today in terms of parking layout, access and circulation. However, the long term implications of doing nothing points to a need for a better solution to managing and accommodating traffic while creating a safer, and more visitor-friendly Capitol grounds.

Therefore, several solutions, or alternatives are proposed in lieu of the no-build scenario. These alternative features modify the existing transportation and parking system to increase safety, functionality and restore historical integrity. Below is a list of transportation and parking related features to be considered:

1. Eliminate approximately one-quarter of the surface parking lots, regrade the remaining parking lots and replace the lost stalls with additional underground parking and interconnect east and west lots;
2. Eliminate approximately one-half of the surface parking lots, regrade the remaining parking lots and replace the lost stalls with additional underground parking;
3. Consolidate access points to the Capitol grounds;
4. Consider the installation of a roundabout at the intersection of State Street and 300 North;
5. Narrow East Capitol Boulevard;
6. Construct a mid-block pedestrian crossing between 300 North and 500 North on East Capitol Boulevard;
7. Narrow 500 North;
8. Construct a pedestrian underpass underneath Columbus;
9. Evaluate the construction of mid-block pedestrian crossing on Columbus considering the potential traffic signal installations at 300 North and 500 North;
10. Reconfigure the Daughters of Utah Pioneers Museum parking lot; and
11. Convert the existing loop road into a pedestrian access that will accommodate emergency vehicles, and special event VIP vehicle access;
12. Complete the exterior pedestrian walkway around the Capitol perimeter; and
13. Provide a pedestrian connection to the west along the Capitol east/west axis.
14. Installation of traffic signal at Columbus Street. and 300N, as well as 500N.

It has been assumed for this evaluation that the total number of users to the Capitol will not significantly increase beyond the existing conditions.

1. *Eliminate approximately one-quarter of the surface parking lots and replace them with additional underground parking and interconnect east and west lots (see Figure 6)*

For this study, the number of available on-site parking stalls is assumed to remain consistent over time. Whether the parking is underground or on surface lots, the traffic impact off-site remains the same. Therefore, the elimination of surface parking is more of an aesthetic consideration rather than a necessity. However, underground parking can provide increased security to state officials and dignitaries. Hence, it is recommended that some parking be placed underground. The elimination of the surface lots and replacement with underground parking is consistent with the Capitol Hill Community Master Plan. By placing additional parking underground, land otherwise used for parking can become available to create a park-like campus as originally envisioned when the Capitol was built, therefore restoring the historical integrity.

This alternative provides for the elimination of approximately one-quarter of the existing on-site surface

parking stalls (200) and replaces them with new underground parking. Approximately 200 additional stalls would be placed underground for a total of 380 underground stalls (200 new underground and 180 existing underground stalls). These additional parking underground stalls would replace the lower east parking lot, one-third of the middle east parking lot, and parking on the Loop Road. The northwest parking lot would remain and be interconnected with the east parking lots. The lower east lot and one-third of the middle east lot would be converted into landscape area, pedestrian walkways, handicap parking close to the building, and a consolidated access to the underground parking structure. In addition, the lower loop road would have the surfacing removed and replaced with a surface that would resemble a pedestrian plaza, but could accommodate emergency vehicles and other vehicular access to this plaza area would be restricted to "special occasions" (Alternative 11).

Maintaining the interconnection of the East Capitol Boulevard access and 500 North access is critical in that it could also be used for bus circulation, where buses can enter from the access on East Capitol Boulevard, load or unload near the Capitol Building and then exit onto 500 North.

The existing surface lots on the east side are flat in comparison to the natural slope of the area. This condition has caused the areas next to the lots to have excessively steep slopes that lead to the State Office Building and others on campus. This is difficult to maneuver especially during the winter months. This change in grade between the parking lots and the buildings on campus are in part why the upper east parking lot is under utilized. This alternative would also provide the opportunity to regrade the lots to slope the parking lots more in harmony with the natural slope. This would give a gradual slope to the buildings from the parking lots instead of an abrupt drop-off. In turn, the lots could be relandscaped to provide more trees to shade the lot and soften the look of the asphalt to the residents to the north. This similar concept would also be applied in Alternative 2.

2. ***Eliminate approximately one-half of the surface parking lots and replace them with additional underground parking (see Figure 6)***

The assumptions used for this alternative are the same as the previous alternative for the elimination of one-quarter of the existing surface lots, however, this alternative goes one step farther to reduce the visual impacts to the Marmalade District residential neighbors by eliminating the northwest parking lot.

This alternative provides for the elimination of approximately one-half of the existing on-site surface parking stalls (440) and replaces them with new underground parking. Approximately 440 additional stalls would be placed underground for a total of 620 underground stalls (440 new underground and 180 existing underground stalls). These additional underground parking stalls would replace the lower east parking lot, one-third of the middle east parking lot, the northwest parking lot, and parking on the Loop Road. The lower east lot and one-third of the middle east lot would be converted into landscape area, pedestrian walkways, handicap parking close to the building, and a consolidated access to the underground parking structure. The northwest parking lot would be converted into landscaped area. In addition, the lower loop road would have the surfacing removed and replaced with a surface that would resemble a pedestrian plaza, but could accommodate emergency vehicles and other vehicular access to this plaza area would be restricted to "special occasions" (Alternative 11).

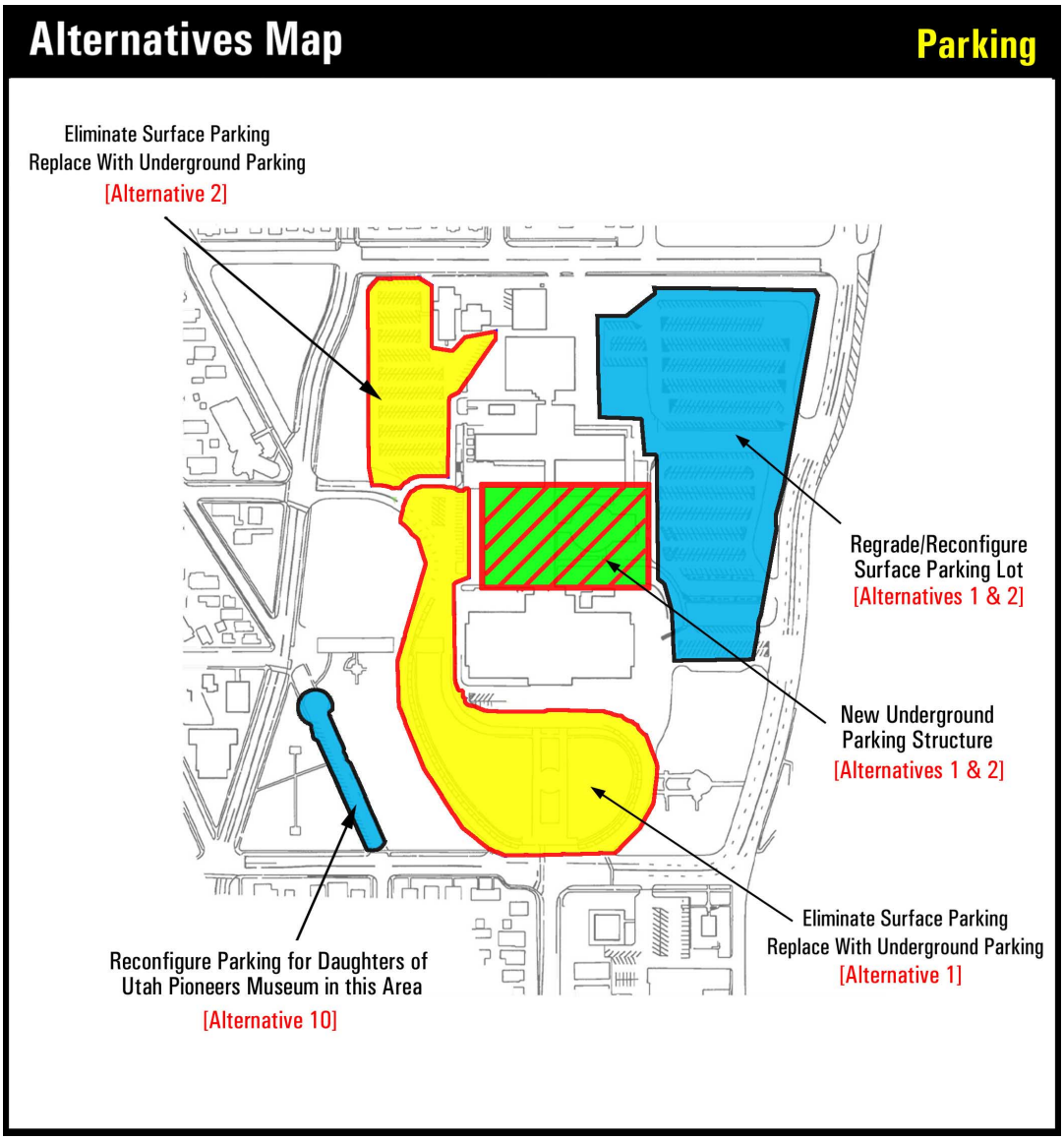

FIGURE 6

3. Consolidation of access points to the Capitol grounds (see Figure 7)

The Capitol currently has eight driveway entrances, three on 500 North, three on East Capitol Boulevard, one on Columbus Street, and one on 300 North. The numerous accesses and lack of directional signing make it difficult for visitors to find their destination and parking.

Under this proposal, accesses to the Capitol's parking areas will be consolidated to three access points. The main access would be located on East Capitol Boulevard. A complimentary access would be included on 500 North, that would be interconnected to both the underground parking and the East Capitol Boulevard Access. The final access would be the existing access on 300 North. This would continue to provide parking for the

Daughters of Utah Pioneers. Museum.

With consolidated accesses and improved guidance signing, it is intended that safety and function of the streets bordering the Capitol would be improved.

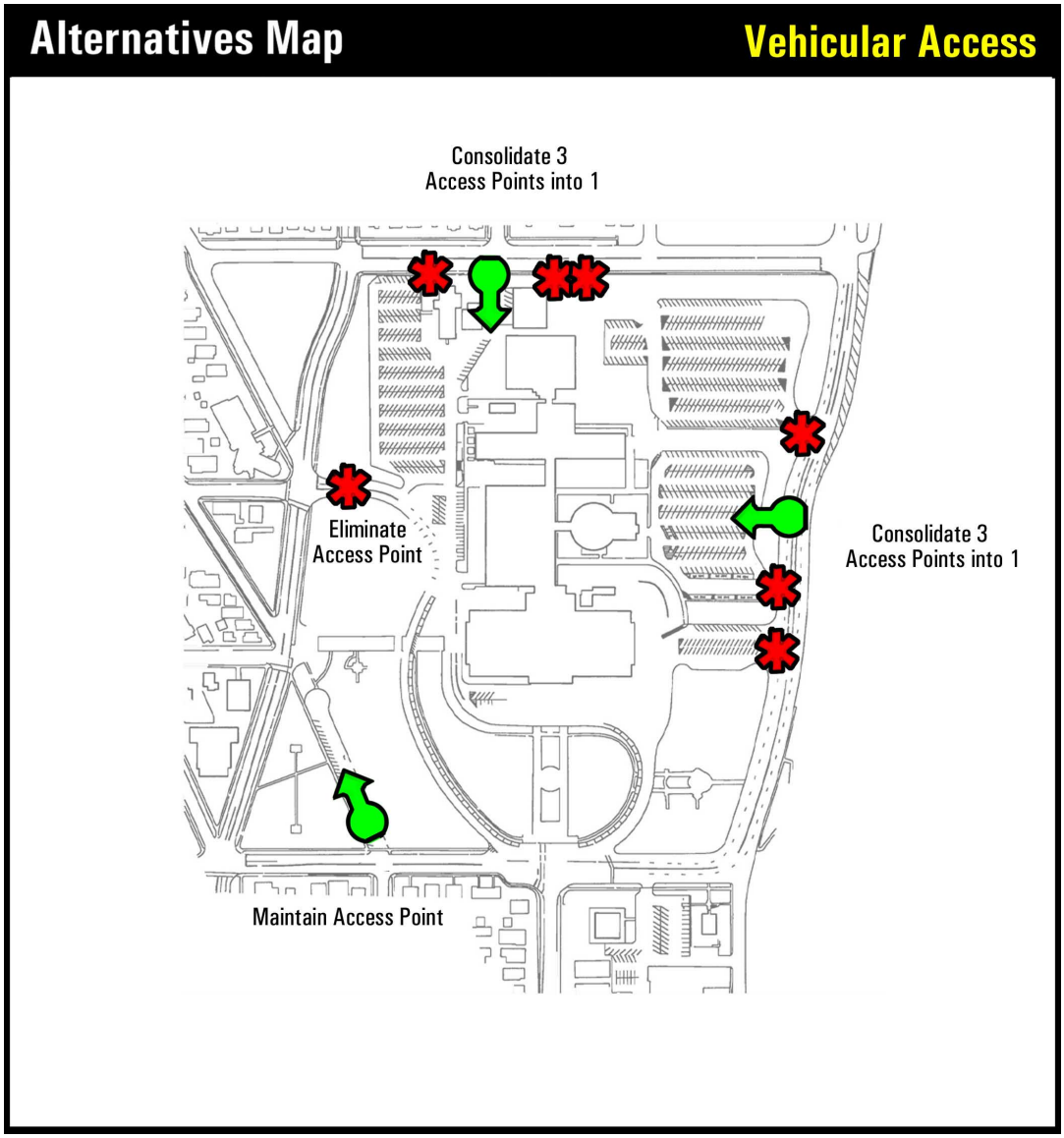

FIGURE 7

4. Consider the installation of a roundabout at the intersection of State Street and 300 North (see Figures 8 and 10)

The intersection of State Street and 300 North in front of the Capitol has the following constraints and concerns:

- Poor existing Level of Service,
- Existing properties on southwest and southeast corners,
- Retaining wall on southeast corner property,
- Crosswalks across 300 North,
- Circular roadway in front of steps and landing, which would be eliminated with the proposed roundabout,
- Grade on State Street to the south,
- Crest of vertical curve on 300 North west of State Street,
- Snow conditions on State Street south of the intersection.

The intent of the roundabout would be to improve the function, safety and aesthetics of the intersection. A roundabout at this location would allow free traffic movement to/from the south on State Street while channeling westbound left turn vehicles and through vehicles by use of a roundabout.

Crosswalks would be allowed on 300 North only, on the east and west legs away from the intersection. It is not recommended that a crosswalk be allowed on the south leg, however the east/west pedestrian flow will be provided on the Capitol grounds.

The roundabout would allow a 64-ft. diameter circle in its center to be landscaped. Features such as a water fountain may be placed inside so long as it does not block visibility across the circle. The roundabout would operate at a much-improved capacity to the existing traffic control and less delays would be anticipated.

FIGURE 8

5. Narrow East Capitol Boulevard (see Figures 10 and 13)

East Capitol Boulevard is excessively wide for the amount of traffic it currently carries. This "sea" of asphalt becomes a barrier for visitors that park on the east side of the street and walk to the Capitol grounds, especially during the legislative session. Narrowing the street to one lane in each direction with left turn lanes at appropriate entrance(s) and on-street parking, creates a street that would be in harmony with the surrounding neighborhood streets. It will reduce speed and create a more pedestrian friendly street. Further, this narrowing will allow the creation of walkways on both sides of the street and a landscaped median. These improvements will enhance the street without acquiring any additional right-of-way. Narrowing East Capitol Boulevard will improve the safety of motorists and pedestrians who share this space.

This alternative is consistent with the Capitol Hill Community Master Plan and the Memory Grove Concept Plan.

6. Construct a mid-block pedestrian crossing on East Capitol Boulevard (see Figures 9 & 13)

The proposed mid-block crossing aligned with the axis of the Capitol Building would provide a much-needed connection to the City Creek Park Area. With the narrower street proposed in Alternative 5, a designated crosswalk would provide a safer condition for a pedestrian crossing. The crossing would also tie into the proposed internal circulation plan for the Capitol.

7. Narrow 500 North (see Figures 10 and 14)

The narrowing of 500 North would include landscaped medians with breaks to access the cross streets. This median will breakup the asphalt and provide a refuge for pedestrians crossing to and from the north. Again, narrowing the street creates an environment that would be in harmony with the surrounding neighborhood streets.

8. Construct a pedestrian underpass underneath Columbus (see Figure 9)

The busiest street adjacent to the Capitol grounds is Columbus Street, especially during peak drive times. As a result, Columbus is not a friendly street to cross. With the anticipated signals at both 300 North and 500 North on Columbus, pedestrians may be able to cross at the signalized intersections. But with frequent pedestrian use traffic progression can be slowed. Pedestrian phases at signalized intersections often occupy the most time during a signal cycle. By relocating pedestrians to an underpass, traffic would move efficiently through the signalized intersections on Columbus. In addition, a pedestrian underpass will allow the Marmalade District and Daughters of Utah Pioneers Museum patrons an easy and safe means to cross the street.

9. Construct a mid-block pedestrian crossing on Columbus Street (see Figure 9)

This alternative has similar intent to the previous alternative, allowing pedestrians to cross Columbus Street at locations other than 300 North and 500 North where traffic signals are anticipated in the future. Treatments that could be considered to provide increased safety for a mid-block crossing include in-pavement flashers, a pedestrian signal, or a raised crosswalk. It should be noted that these pedestrian accommodations are not typical on Utah Department of Transportation roadways, because it is Utah Department of Transportation's intent to move vehicles.

10. Reconfigure the Daughters of Utah Pioneers Museum parking lot (see Figure 6)

Reconfigure parking for the Daughters of Utah Pioneers Museum from the existing Wall Street alignment into a lot that fits the aesthetics of the Capitol grounds. The parking at this location is adequate, however the pedestrian access remains unclear. Upon preliminary review of the pedestrian circulation it is recommended that pedestrian access be provided to the south to the intersection of 300 North and Columbus Street where a traffic signal is anticipated.

11. Convert the existing Loop Road into a pedestrian access that will accommodate emergency vehicles, and "special occasion" vehicle access (see Figure 9)

As stated in Alternatives 1 and 2 it is intent to remove the surface parking from the Loop Road and eliminate the vehicle access, except for emergency vehicles and to allow dignitaries access for special occasions. The primary purpose of the access would be for pedestrians to access the Capitol grounds and destinations to the south.

The vehicular circulation between the east and west sides of the Capitol that is currently provided by the loop road will be maintained by the proposed connection on the north side of the Capitol grounds as proposed in Alternative 3.

12. Complete the perimeter pedestrian walkway (see Figure 9)

The current walkway around the Capitol has gaps on 300 North east of State Street and along East Capitol Boulevard. This is critical in providing a pedestrian circulation plan that functional and safe. It is not uncommon now to see pedestrians walking on the shoulder of East Capitol Boulevard where sidewalk does not exist.

13. Provide a pedestrian connection from the Capitol building west to the perimeter walkway along Columbus Street (see Figure 9)

The pedestrian connection would need to comply with ADA standards which would replace the stairs on the existing walkway. This Alternative along with Alternatives 6, 11 and 12 will provide a pedestrian plan that maintains external and internal circulation to the Capitol grounds.

14. Installation of traffic signal at Columbus Street. and 300N, as well as 500N.

Traffic signals would discourage through-traffc and provide safe pedestrian crosswalks. To improve the intersection of Columbus and 500 North to an acceptable LOS of service during the PM peak period without the Legislature in session, the north/south through-traffic would need to decrease by approximately 40%. It is not the Capitol traffic that is the problem. As long as traffic to and from the Capitol is not increasing,, the Capitol faces the same traffic battle as the entire neighborhood, whose main problem is cut-through traffic between downtown and Davis County, as well as other areas to the north.

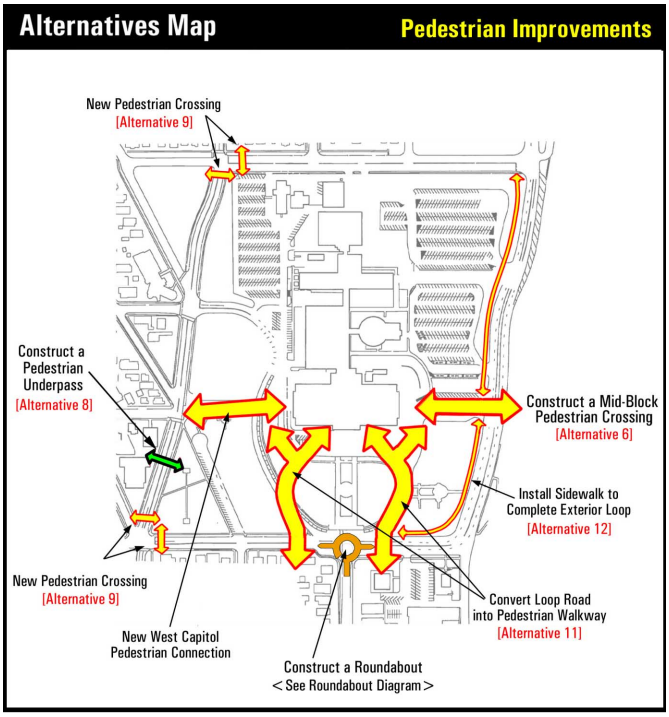

FIGURE 9

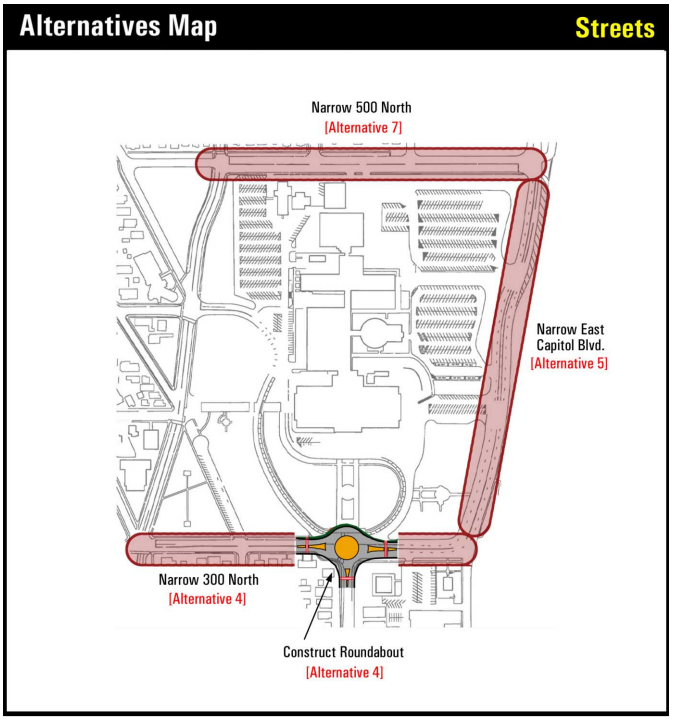

FIGURE 10

ASSUMPTIONS

The alternatives analysis is based upon the following assumptions:

- 2020 traffic conditions
- Legislature in session
- No increase in the number of parking stalls on-site
- Background traffic growth of +1.64% per year
- Although the total visitors to the Capitol grounds will increase by approximately 7% by the year 2020, increased transit and shuttle, and other traffic demand management strategies will allow the entrance and exit rate of vehicles on and off of Capitol grounds to remain consistent.
- Capitol traffic makes only approximately 10% of the total traffic on Columbus

These assumptions will provide a "worst case" scenario in terms of traffic conditions to evaluate each of the alternatives on a long range basis.

1. *Elimination of approximately one-quarter of the surface parking lots and replace with additional underground parking and interconnect east and west lots.*

Removing surface parking and replacing it with underground parking will have no long term effects on the traffic conditions on or around the Capitol grounds. Because it was assumed that the number of parking stalls would remain the same, traffic entering and exiting the Capitol grounds would also remain the same. Therefore, this alternative should be considered for aesthetics and increased safety to state officials and visiting dignitaries, not on traffic capacity.

Although this alternative helps improve the visual quality of the Capitol grounds at the south and east sides of the building it still leaves a visual impact to the Marmalade District residential neighbors.

2. *Elimination of approximately one-half of the surface parking lots and replace with additional underground parking.*

This alternative is similar to the previous alternative for elimination of one-quarter of the existing on-site surface parking stalls. However, in addition to the benefits previously addressed for the one-quarter alternative, there would also be a benefit in the elimination of the visual impact to the Marmalade District residential neighbors. Also, the stalls in the north lot would be relocated to more convenient underground parking stalls, which are closer to the facilities and protected from weather. The intersection problems for the existing north parking lot access would also be eliminated.

In addition, in both Alternatives 1 and 2 the consolidation of parking areas is an improvement for visitors whom currently are confused by the many parking areas.

3. *Consolidation of access points to the Capitol grounds.*

The traffic entering and existing the driveways during the peak travel periods of the adjacent streets, even while the legislature is in session, is significantly less than the capacity provided by the eight accesses. Therefore, based on the demand a few well defined, well designed and located access points will provide adequate capacity.

In analyzing this alternative, access to the Capitol grounds was consolidated to three driveways. The main driveway would be located on East Capitol Boulevard and would be signed to encourage the most use. Although the primary users of the Capitol are repeat daily users (employees) the improved signing and well defined main access would be a benefit to visitors who are often confused as to where to enter and park. A second access would be created off of 500 North and would provide alternative access to the underground parking, also as a service access, emergency vehicle and provide an exit for buses. This access should not be encouraged for primary use. The third access would be the existing driveway on 300 North, which would remain to serve the Daughters of Utah Pioneers Museum.

The interconnection of 500 North and East Capitol Boulevard accesses would allow the intersection of the access from Columbus Street to be eliminated improving the traffic flow along Columbus Street.

Next, traffic was redistributed to each of the three driveways as shown in Figure 11. (Figure 11 only shows the PM Peak hour traffic volumes with the Legislature in session. This represents the worst case scenario.) Each of the driveways were evaluated to see if the capacity was adequate through a Level of Service (LOS) analysis. As illustrated in Figure 12, the LOS for each of the intersections in the study area have adequate capacity, with the exception of the proposed traffic signals at 300 North and 500 North on Columbus. This poor LOS is due to the narrow width of Columbus. Since there are no plans to widen Columbus to increase the capacity, these signals will continue to operate poorly.

However, the poor LOS at these locations will act as a traffic deterrent, encouraging motorists to seek another more efficient route such as I-15, 400 West and 300 West. The current conditions of I-15, 400 West and the traffic signal system on 300 West (under construction or impacted by adjacent site construction) make Beck Street to Victory Road to Columbus Street the most efficient way into the downtown. Utah Department of Transportation and Salt Lake City are working to improve signing on Beck Street and I-15 to increase the awareness of drivers to alternative routes. In addition, Utah Department of Transportation and Salt Lake City have added left turn accommodations on 400 West to improve the flow from 400 West east into the Central Business District as well as developing plans to improve the signal coordination on 300 and 400 West.

The LOS analysis shows that the consolidated driveways will work well and should be recommended for implementation.

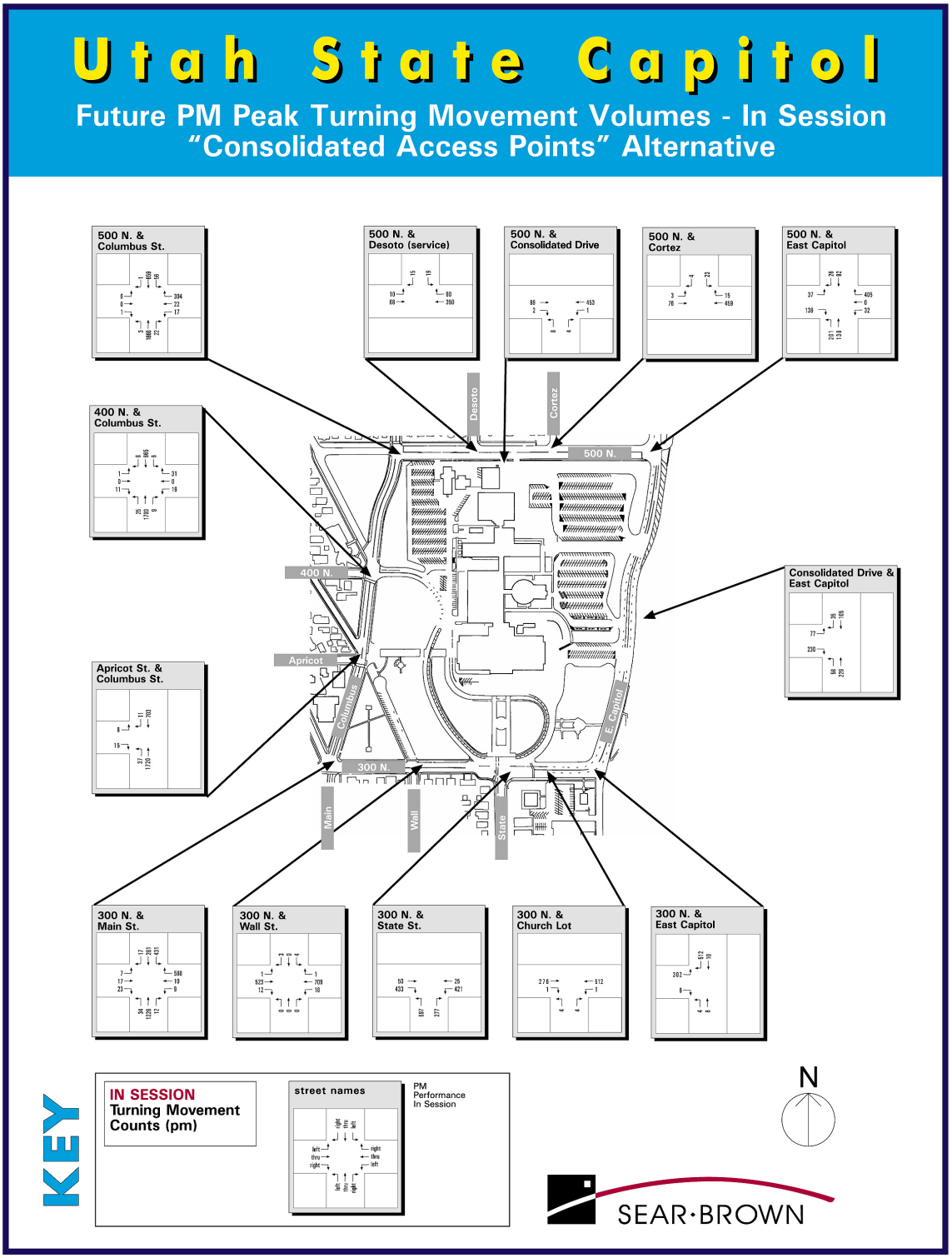
Utah State Capitol
Future PM Peak Turning Movement Volumes - In Session
"Consolidated Access Points" Alternative
500 N. & Columbus St.
500 N. & Desoto (service)
500 N. & Consolidated Drive
500 N. & Cortez
500 N. & East Capitol
400 N. & Columbus St.
Desoto
Cortez
500 N.
400 N.
Consolidated Drive & East Capitol
Apricot
Apricot St. & Columbus St.
Columbus
E. Capitol
300 N.
Main
Wall
State
300 N. & Main St.
300 N. & Wall St.
300 N. & State St.
300 N. & Church Lot
300 N. & East Capitol
KEY
IN SESSION
Turning Movement
Counts (pm)
street names
PM
Performance
In Session
N
SEAR·BROWN

FIGURE 11

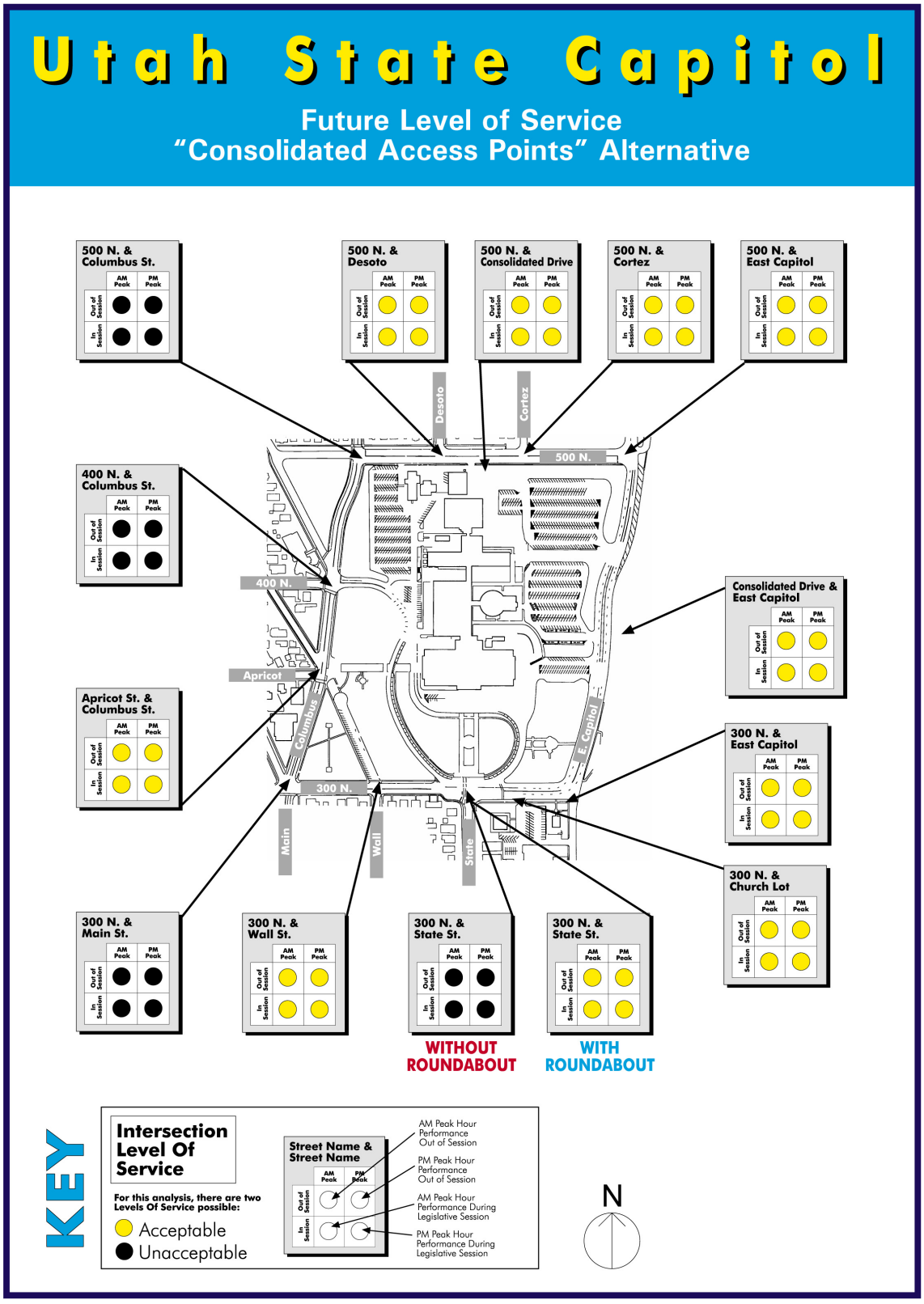
Utah State Capitol
Future Level of Service
"Consolidated Access Points" Alternative
500 N. & Columbus St.
500 N. & Desoto
500 N. & Consolidated Drive
500 N. & Cortez
500 N. & East Capitol
400 N. & Columbus St.
Consolidated Drive & East Capitol
Apricot St. & Columbus St.
300 N. & East Capitol
300 N. & Church Lot
300 N. & Main St.
300 N. & Wall St.
300 N. & State St.
300 N. & State St.
Desoto
Cortez
500 N.
400 N.
Apricot
Columbus
E. Capitol
300 N.
Main
Wall
State
WITHOUT ROUNDABOUT
WITH ROUNDABOUT
AM Peak
PM Peak
Out of Session
In Session
KEY
Intersection Level Of Service
For this analysis, there are two Levels Of Service possible:
Acceptable
Unacceptable
Street Name & Street Name
AM Peak Hour Performance Out of Session
PM Peak Hour Performance Out of Session
AM Peak Hour Performance During Legislative Session
PM Peak Hour Performance During Legislative Session
N

FIGURE 12

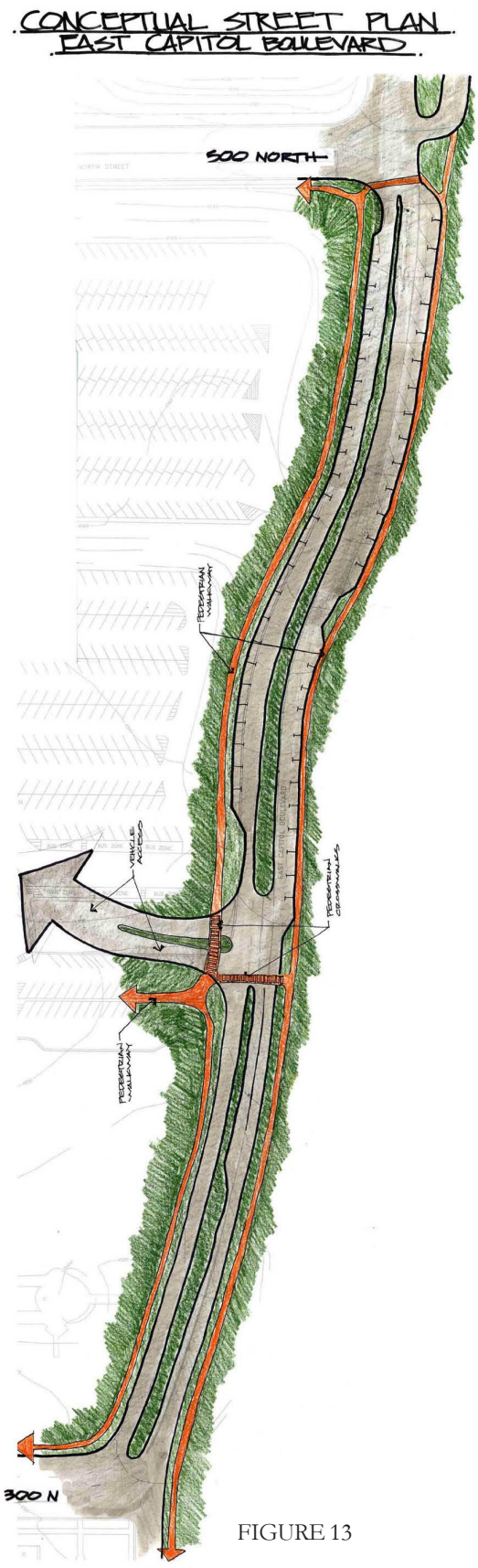

FIGURE 13

4. *Construct a Roundabout at the intersection of State Street and 300 North*

To alleviate the unacceptable LOS exhibited at this location, two scenarios were considered: a traffic signal and a roundabout. The traffic signal scenario was rejected because it did not meet the required warrants outlined by the Manual of Uniform Traffic Control Devices (MUTCD) and the need for widening State Street to accommodate queuing cars at a red light. Therefore, a roundabout was considered because it allows for free flowing traffic and no additional street widening on State Street.

It should be noted that the current intersection configuration, although confusing, is viewed by Utah Department of Transportation as relatively safe with low accident severity. Utah Department of Transportation recently completed the construction of the first roundabout on SR-224 in Park City. Utah Department of Transportation's initial response on the roundabout at this location was cautious and would require more detailed analysis and design to obtain their approval.

A roundabout at this location would improve the operation and would allow free traffic movement north and south on State Street while channeling westbound left turn vehicles and through vehicles by use of a roundabout.

Crosswalks would be allowed on 300 North, on the east and west legs away from the intersection. A crosswalk may be allowed on the south leg if adequate sight is available, however the east/west pedestrian flow will be provided on the Capitol grounds on the north leg.

300 North may be narrowed to the east as the roundabout would eliminate any need for storage or stacking in this direction. A portion of the narrowing on 300 North could be achieved by installing a landscaped median, which would also provide a pedestrian refuge while crossing.

The roundabout would allow a 80-ft. diameter circle in its center to be landscaped. Features such as a water fountain may be placed inside so long as it does not block visibility across the circle. The roundabout would operate at a much-improved capacity to the existing traffic control and less delay would be anticipated. The proposed roundabout can accommodate a WB-50 design vehicle, and will be able to accommodate larger vehicles with a six-foot wide apron around the center island. Visibility of the roundabout would be acceptable from all directions.

A capacity analysis was performed to evaluate the long-term performance of the proposed roundabout. The capacity analysis showed that the roundabout will work well with an overall LOS of A for both the a.m. and p.m. peak hours during the 2020 legislative session. In addition, pedestrian access across 300 North would improve by providing a six-foot wide pedestrian refuges in the splitter islands.

5. *Narrow East Capitol Boulevard*

Narrowing East Capitol Boulevard to one lane in each direction with center turn lanes will provide adequate capacity and maintain on-street parking. This narrowing will promote slower traffic and increased pedestrian safety. Further more, this alternative is in compliance with the Capitol Hill Community Master Plan and the Memory Grove Concept Plan.

Based on the potential growth north of 500 North on East Capitol Boulevard and the limited access to East Capitol Boulevard from other directions, the 1.64% annual growth rate applied to the existing traffic provides a worst case scenario for the traffic in 2020. The analysis illustrated in Figure 11, not only includes the consolidated accesses but also the narrowing of roads (East Capitol Boulevard and 500 North).

Turn bays at each of the driveways maintains the capacity for the through traffic, using East Capitol for purposes other than going to and from the Capitol.

The median will also serve as a pedestrian refuge for the crossing between the Capitol and Memory Grove.

6. *Construct a mid-block pedestrian crossing(s) on East Capitol Boulevard*

In combination with the narrow street, as proposed in Alternative 5, a designated crosswalk not only provides a safer condition for pedestrians, but a gateway to the Capitol grounds from City Creek or Memory Grove. This alternative will work well with the narrowing of East Capitol Boulevard as described above.

In evaluating the narrowing of East Capitol Boulevard and the consolidation of access points (Alternatives 5 and 3) the consolidation of a pedestrian crossings is also recommended, on the south side of the main vehicle entrance. This is a well defined decision point for the drivers on East Capitol Boulevard. The pedestrian crossing should be defined with a contrasting pavement treatment to increase driver awareness.

The installation of the pedestrian crossing should not be dependent on Alternatives 3 and 5, the demand exists and should be addressed with or without the narrowing of East Capitol Boulevard. In the case that, Alternatives 3 and 5 are not implemented, treatments such as pedestrian crossing warning signs, a raised crosswalk, contrasting pavement section, or in pavement flashers should be seriously considered. Salt Lake City, whom has jurisdiction of East Capitol Boulevard, has installed treatments to these in the past.

7. *Narrow 500 North*

Similar to East Capitol Boulevard, 500 North narrowing does not impede the capacity and will create an atmosphere consistent with the surrounding neighborhoods. It will be critical to provide turn bays for the intersections with access point(s), and streets to maintain the through traffic capacity. The medians not only will assist in calming the traffic to residential street speeds but will also provide a pedestrian refuge for crossing between the Capitol and the neighborhoods to the north.

FIGURE 14

8. *Construct a pedestrian underpass underneath Columbus*

The busiest street adjacent to the Capitol grounds is Columbus Street, especially during the peak travel times. As a result, Columbus Street is not a friendly street to cross. The safest way to move pedestrians across a busy street is by using a grade separated facility such as a over or underpass. Unfortunately, both types of facilities are costly and have other disadvantages. The overpass has not been evaluated because of the visual impacts on the Capitol and neighborhoods in combination with the costs.

The underpass also has several areas of concern related to the grades, the available right-of-way on the west side of Columbus Street, maintaining ice free conditions in the winter, and safety issues associated with any tunnel. All of which add to the cost of an already expensive alternative.

With the anticipated signals at both 300 North and 500 North on Columbus (based on a study recently completed by UDOT), and the potential of Alternative 9, an underpass does not appear to be feasible at this time. It should be noted that pedestrians crossings at the anticipated signalized intersections at 300 and 500 North is a safe alternative. The increased pedestrian use at these intersections will decrease the vehicle capacity, which is seen as a benefit to the Capitol Hill Community, with the intent to discourage the commuter traffic through there area.

9. *Construct a mid-block pedestrian crossing on Columbus*

Mid-block crossings are typically less safe than those with separated grades or at intersections, however, they do provide a means to allowing people to cross, when ignoring the demand is not an acceptable solution. Unfortunately, at this time the demand has not been quantified and before action is taken on this alternative pedestrian counts between 300 North and 500 North will need to be conducted.

As previously discussed the anticipated traffic signals at 300 North and 500 North will provide a means of crossing Columbus Street, however, the challenge will be guiding pedestrians away from the mid-block area to the intersections of 300 North and 500 North, assuming that the signals get installed.

It is currently a challenge for drivers to anticipate where pedestrians will cross because of the faded crosswalk pavement markings and several mid-block locations to cross. Therefore, the existing crosswalks either need to be maintained or consideration be given to installing a consolidated mid-block pedestrian accommodation, such as warning signs, in pavement flashers or textured/contrasting pavement treatments. This will require approval from Utah Department of Transportation.

The low LOS at the intersection of 400 North and Columbus will be alleviated by the anticipated im-

provements at 300 North and Columbus, and the elimination of the east leg of the 400 North intersection into the Capitol, as is recommended below.

10. *Reconfigure the Daughters of Utah Pioneers Museum parking lot*

Reconfiguring the parking lot will have no long term effects on the traffic conditions on or around the Capitol grounds. Because it was assumed that the number of parking stalls would remain the same, traffic entering and exiting the Capitol grounds would also remain the same. Therefore, this alternative should be considered for aesthetics and increased safety to visitors Daughters of Utah Pioneers Museum, not on traffic capacity.

However, pedestrian access between the existing parking and the Museum is a concern and pedestrian accommodations need to be provided to the intersection of 300 North and Main Street (Columbus Street). Without or without a traffic signal, it is safer to cross at the intersection rather than an undefined mid-block location along Columbus.

11. *Convert the existing Loop Road into a pedestrian access that will accommodate emergency vehicles, and special occasion vehicle access*

Converting the existing Loop Road into a pedestrian access will have no long term effects on the vehicular traffic conditions on or around the Capitol grounds. Because it was assumed that the number of parking stalls would remain the same, traffic entering and exiting the Capitol grounds would also remain the same. Therefore, this alternative should be considered for aesthetics and increased safety to pedestrians to access the Capitol grounds and destinations to the south

12. *Complete the perimeter pedestrian walkway*

Completion of the perimeter pedestrian walkway around the Capitol maintains the separation of pedestrians and vehicles on 300 North and East Capitol Boulevard which is critical for the safety of pedestrians. It also enhances the park setting of the Capitol grounds by providing access to pedestrians to the entire grounds.

13. *Provide a pedestrian connection from the Capitol building to the perimeter walkway along Columbus Street*

The connection of the Capitol building to perimeter walkway along Columbus Street completes the internal to external pedestrian circulation plan. The internal circulation which is made up of the sidewalks between buildings, monuments and parking areas and the external circulation which allows pedestrians access to origins and destinations off the Capitol grounds.

This connection will also provide ADA access to the grounds on the west.

14. Installation of traffic signal at Columbus Street. and 300N, as well as 500N.

The intersection of 500 North and Columbus will be evaluated by UDOT following the improvements at 300 North, however, traffic projections indicate that traffic signal installations will be required at both 300 and 500 North.

Based upon the analysis the following recommendations do provide benefits to the users of the Capitol and the surrounding areas. However the streets surrounding the Capitol as previously stated are under the jurisdiction of the Utah Department of Transportation and Salt Lake City and are in place to not only serve the users of the Capitol but also the general travelling public. Therefore, it is critical to understand that these recommendations will need to approved by the agencies with jurisdiction and may require additional analysis. Upon receiving approval from the appropriate agencies, the recommendations will be required to proceed through the standard process which does include an opportunity for public involvement. The following alternatives should be pursued into the next stages of the Capitol Renovating Master Plan process:

2. ***Eliminate approximately one-half of the surface parking lots, regrade the remaining parking lots and replace the lost stalls with additional underground parking.*** The traffic and parking will not be altered by this alternative, therefore the alternative should be considered for aesthetics and increased safety to state officials and visiting dignitaries, not on traffic capacity.
3. ***Consolidate access points to the Capitol grounds;*** The consolidated access points provides several safety and functional benefits to the users of the Capitol and the travelling public. The consolidated access provides to the opportunity reduce visitor confusion with one main access and improved informational signing. Closing the access point on Columbus Street keeps through traffic moving, and eliminates some potentially dangerous traffic maneuvers in and out of the driveway.
4. ***Consider the installation of a roundabout at the intersection of State Street and 300 North.*** The installation of the roundabout provides the opportunity to improve the operation/function of an intersection that is currently operating at a less than acceptable level of service and is confusing with unconventional intersection control layout. In addition, there are some aesthetic benefits of the roundabout that the existing intersection does not provide with odd medians and striping.
5. ***Narrow East Capitol Boulevard.*** The narrowing of East Capitol Boulevard is recommended to improve the safety for vehicles and pedestrians, and promote the neighborhood friendly atmosphere.
6. ***Construct a mid-block pedestrian crossing between 300 North and 500 North on East Capitol Boulevard.*** The mid-block pedestrian crossing is recommended as part of the pedestrian circulation plan to allow pedestrian to access destinations/origins off the Capitol grounds. In addition, a demand currently exists and the installation of the crossing will improve the safety of pedestrians attempting to cross East Capitol.
7. ***Narrow 500 North.*** The narrowing of 500 North is recommended to improve the safety for vehicles and pedestrians, and promote the neighborhood friendly atmosphere.
10. ***Reconfigure the Daughters of Utah Pioneers Museum parking lot.*** The opportunity to improve the pedestrian access between the parking and the Museum is a safety issue that should be addressed. Other than the pedestrians, traffic and parking will not be altered by this alternative, therefore the modification of the parking layout should be considered for aesthetics, not on traffic capacity.
11. ***Convert the existing loop road into a pedestrian access that will accommodate emergency vehicles, and special event VIP vehicle access.*** The increased safety provided to pedestrians by this alternative is relatively small, therefore, this alternative should be considered for aesthetics.

12. ***Complete the exterior pedestrian walkway around the Capitol perimeter.*** This alternative provides a significant role in completing pedestrian circulation around the campus and a safety benefit by separating the pedestrian/vehicle traffic along 300 North and East Capitol Boulevard.
13. ***Provide a pedestrian connection to the west along the Capitol building east/west axis.*** The connection between the internal and external pedestrian circulation and ADA connection is important to the overall pedestrian circulation function.
14. ***Installation of traffic signal at Columbus Street. and 300N, as well as 500N.*** Reducing through-traffic on Columbus is the best way to increase vehicular and pedestrian safety on Columbus Street.

These recommendations will enhance the Capitol grounds by providing a campus that is more accessible to pedestrians and vehicles. Traffic circulation will improve, pedestrian access will improve, and most important, safety will improve.